

WHAT IS CLAIMED IS:

1. A method of enhancing a biochemical reaction,
comprising:

5 placing reactant(s) in a medium for said biochemical
reaction into a reaction vessel, wherein said reaction vessel comprises
a device for enhancing said biochemical reaction, said device further
comprising means for applying energy;

10 applying energy to said reactant(s) or to said medium or to
a combination thereof;

altering a molecular state of said reactant(s) upon
application of energy thereby increasing an energy state of said altered
reactant(s); and

increasing formation of at least one biochemical product of
15 the biochemical reaction upon increase of the energy state of said
reactant(s) thereby enhancing the biochemical reaction.

2. The method of claim 1, further comprising:

20 providing an enzymatic catalyst to said reaction vessel; and
stabilizing said reactant(s) at said increased energy state.

3. The method of claim 1, wherein the biochemical reaction is a polymerase chain reaction.

5 4. The method of claim 1, wherein the biochemical reaction is a enzyme linked immunoassay reaction.

10 5. The method of claim 1, wherein said energy is electromagnetic energy or mechanical energy.

15 6. The method of claim 5, wherein said electromagnetic energy is generated by a source which provides radiant energy with a wavelength from about 200 nm to about 20,000 nm.

7. The method of claim 5, wherein said electromagnetic energy is radiofrequency or microwave.

8. The method of claim 5, wherein said mechanical energy is a pressure wave.

5 9. The method of claim 1, wherein said molecular state is temperature, molecular vibration, molecular rotation, or a combination thereof.

10 10. The method of claim 1, wherein altering said molecular state alters molecular configuration of said reactant(s).

11. The method of claim 10, wherein said altered
15 molecular configuration is a transition state of said reactant(s).

12. A method of increasing the rate at which a group of molecules reaches a different molecular configuration from initial
20 configuration, comprising:

providing a means of applying energy to said molecules having the initial molecular configuration;
applying energy to said molecules; and
increasing a vibrational or rotational state of said molecules
5 upon application of energy thereto thereby increasing the rate at which the group of said molecules reaches a different molecular configuration.

10 13. The method of claim 12, wherein said molecules are in a reaction vessel comprising a device, said device further comprising said means of applying energy.

15 14. The method of claim 12, wherein said molecules comprise a membrane or other tissue barrier.

15. The method of claim 12, wherein said energy is
20 electromagnetic energy or mechanical energy.

16. The method of claim 15, wherein said electromagnetic energy is radiofrequency energy or microwave energy.

5 17. The method of claim 15, wherein said electromagnetic energy is generated by a source which provides radiant energy with a wavelength from about 200 nm to about 20,000 nm.

10 18. The method of claim 15, wherein said mechanical energy is a pressure wave.

19. The method of claim 12, wherein said different
15 molecular configuration occurs at a transition state in a biochemical reaction.

20. The method of claim 19, wherein said biochemical
20 reaction is catalyzed via an enzyme.